July 27, 1999

MEMORANDUM

TO: Orville D. Green, Administrator
State Air Quality Program

FROM: Susan J. Richards
Program Manager
Air Quality Permit Program

SUBJECT: Issuance of modified Tier II Operating Permit (#017-00048) to Interstate Concrete & Asphalt (Sandpoint)

PROJECT DESCRIPTION

This project is for the issuance of a modified Tier II Operating Permit (OP) for Interstate Concrete & Asphalt located at Sandpoint.

DISCUSSION

On May 13, 1999, Idaho Department of Health and Welfare, Division of Environmental Quality (DEQ) received an application for a modification to Tier II OP #017-00048 from Interstate Concrete & Asphalt. On June 10, 1999, the application was declared complete.

FEES

Interstate Concrete & Asphalt's request for this modification of the permit does not qualify as a substantive modification. Therefore, a $500.00 Tier II OP fee specified by IDAPA 16.01.01.470 is not required. The facility is a non-major facility as defined by IDAPA 16.01.01.008 and, therefore, is not subject to registration fees per IDAPA 16.01.01.525.

RECOMMENDATIONS

Based on the review of the application materials, and all applicable state and federal regulations, staff recommends that DEQ issue a revised Tier II OP #017-00048 to Interstate Concrete & Asphalt to reflect the equipment modernization. Specified emission limits and operating hour restrictions shall remain unchanged. No public comment is required because this is a non-substantive permit modification.

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cc: G. Burr, Coeur d'Alene Regional Office
Source File
COF

July 27, 1999

MEMORANDUM

TO: Susan J. Richards
Program Manager
Air Quality Permit Program

FROM: Tom Lundahl, Air Quality Engineer
State Technical Services

THROUGH: Daniel Salgado
Lead Process Engineering
State Technical Services Office

SUBJECT: Technical Analysis for Non-Substantive Modification of Tier II Operating Permit #017-00048
Interstate Concrete & Asphalt (Sandpoint)

PURPOSE

The purpose of this memorandum is to satisfy the requirements of IDAPA 16.01.01.400 (*Rules for the Control of Air Pollution in Idaho*) (*Rules*) for the issuance of Operating Permits.

FACILITY DESCRIPTION

Interstate Concrete & Asphalt (Interstate) owns and operates a facility in the Sandpoint Nonattainment Area (SNA) containing both a concrete batch plant and a portable asphalt batch plant. The concrete plant and asphalt plant can operate simultaneously. The asphalt plant was originally issued a State of Idaho Permit to Construct (PTC) in June of 1990. The concrete batch plant was not included in that permit. No aggregate crushing or washing activities occur on-site. The facility was issued a Tier II Operating Permit (OP) on July 7, 1995.

Asphalt Plant

Haul trucks bring crushed aggregate and sand on-site where they are dumped into storage piles. A front-end loader transfers aggregate and sand, as needed, to a three-bin cold feed hopper. Metered quantities of aggregate are fed from the hopper onto a conveyor. The conveyor passes the aggregate through a screen and delivers the aggregate to a natural gas-fired rotating drum dryer. In the drum dryer, the aggregate is heated to approximately 300°F and is transported by a bucket conveyor to a size segregating screen and stored shortly before being reproportioned in a weigh hopper prior to transfer into a pug-mill mixer. In the pug-mill mixer, the aggregate is thoroughly mixed with asphalt oil before either being dropped onto a drag slat conveyor for transport into storage silos or into haul trucks.

The hot-mix asphalt plant is a Barber Greene model DA-65, which is a drum-mix design, with a manufacturer's rated production capacity of 200 tons per hour (T/hr). The burner has a heat input capacity of 36 million British Thermal Units per hour (BTU/hr) and operates on natural gas. PM and PM_{10} emissions from the drum dryer, hot storage bin, weigh scale, and pug mill mixer are controlled by a baghouse. Reclaimed baghouse dust is combined with dried aggregate in the hot storage bin.

Asphalt oil is delivered to the facility by bulk tankers. The tankers transport the asphalt oil to one of the storage tanks. The asphalt plant also loads raw aggregate into haul trucks directly from a front-end loader.

Concrete Plant

Equipment at the concrete batch plant includes the batch unit with cement and aggregate weigh hoppers and load-out conveyor belt, three cement silos (one of which is equipped with a weigh hopper), and elevated aggregate storage bins with charging hopper and conveyor.

Washed rock and sand are derived from off-site source(s) and are transported onto the facility by haul trucks. The sand and aggregate are dumped in the storage pile area shared by the asphalt batch plant. A front-end loader then transfers the aggregate to the charging hopper as needed. From the charging hopper, the aggregate is transported at a rate of 200 tons per hour (T/hr) by a conveyor to the elevated storage bins. The aggregate travels along a conveyor to a weigh hopper where it is transferred directly to a mixer truck in the desired proportions. Raw cement is batched in either of two locations: in the first case, it is discharged directly onto the aggregate conveyor; and in the second case, it is transferred directly to the mixer truck. Water is added at the common aggregate/cement entry point simultaneously. Aggregate and approximately two-thirds of the water are added to the mixer prior to introduction of cement. The last portion of water is added after all other ingredients have been mixed. The mixer truck blends the mixture and transports the concrete off-site. The maximum allowable production capacity for the concrete batch plant is 75 cubic yards per hour (yd^3/hr).

Cement is delivered by bulk tanker truck, which pneumatically conveys the cement to one of three storage silos.

The concrete batch plant provides aggregate for delivery off-site. A front-end loader either transfers the aggregate directly to the haul trucks or to the pea gravel hopper (PG Hopper), which in turn drops the aggregate into haul trucks.

Particulate emissions from the three cement silo bin vents are controlled by two mini baghouses. Bags are cleaned by motor driven shaker. Baghouse cement dust reclaimed by the shaker is returned to the storage bin.

Emissions from operation of the concrete batch plant include fugitive PM and PM_{10} emissions resulting from loader and truck traffic on unpaved roads, aggregate drops, aggregate transport on uncovered conveyors, and wind erosion of exposed storage piles.

PROJECT DESCRIPTION

Interstate Concrete requested that DEQ modify their existing Tier II Operating Permit to reflect equipment modernization. In particular, emissions from the two (2) cement silo bin vents are now controlled by two (2) dedicated minibaghouses.

SUMMARY OF EVENTS

May 13, 1999	DEQ received Interstate's Tier II modification request.
June 10, 1999	Interstate's application is declared complete.

DISCUSSION

1. Emission Estimates and Project Discussion

There is no change to any emission rates or plant quantities on an hourly, daily, or yearly basis.

2. Modeling

No modeling analysis was performed for this project.

3. Area Classification

Interstate is located in the Sandpoint PM_{10} nonattainment area, in Bonner County. The area is designated as attainment or unclassifiable for all other criteria pollutants.

4. Facility Classification

Interstate's Sandpoint facility is not a major facility as defined by IDAPA 16.01.01.008.14. Interstate is not a designated facility, as defined by IDAPA 16.01.01.006.25

5. Regulatory Review

The facility is subject to the following permitting requirements:

a)	IDAPA 16.01.01.200	Procedures and Requirements for Permits to Constructs.
b)	IDAPA 16.01.01.401.03(a)	Tier II Operating Permit Required for Attainment of a National Ambient Air Quality Standard;
c)	IDAPA 16.01.01.403	Permit Requirements for Tier II Sources;
d)	IDAPA 16.01.01.406	Obligation to Comply;
e)	IDAPA 16.01.01.625	Visible Emissions Opacity Restrictions;
f)	IDAPA 16.01.01.650	General Rules for the Control of Fugitive Dust; and
g)	IDAPA 16.01.01.808	Fugitive Dust Control for Asphalt Plants.

FEES

Interstate's request for this modification of the permit does not qualify as a substantive modification. Therefore, a $500.00 Tier II OP fee specified by IDAPA 16.01.01.470 *(Rules)* is not required. The facility is a non-major facility as defined by IDAPA 16.01.01.008 and, therefore, is not subject to registration fees per IDAPA 16.01.01.525.

RECOMMENDATIONS

Based upon a review of the submittal from Interstate, the Bureau recommends that DEQ issue Interstate Concrete & Asphalt a revised Tier II OP #017-00048 to reflect the equipment modernization. Specified emission limits and operating hour restrictions shall remain unchanged. No public comment is required because this is a non-substantive permit modification.

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Attachments

cc: G. Burr, Coeur d'Alene Regional Office
R. Wilkosz
Source File
COF

Appendix A

Fugitive Dust Control Plan, dated May 2, 1995

FUGITIVE DUST CONTROL PLAN

INTERSTATE CONCRETE AND ASPHALT CO.

Sandpoint, Idaho

May 2, 1995

PURPOSE

Implementing a practical and effective fugitive dust control plan is a requirement of our Air Operating Permit issued as part of the Sandpoint PM-10 Implementation Plan. An effective plan that helps Interstate control fugitive dust emissions from the unpaved portions of our site protects our ability to operate and benefits our community through cleaner air.

AMENDMENTS

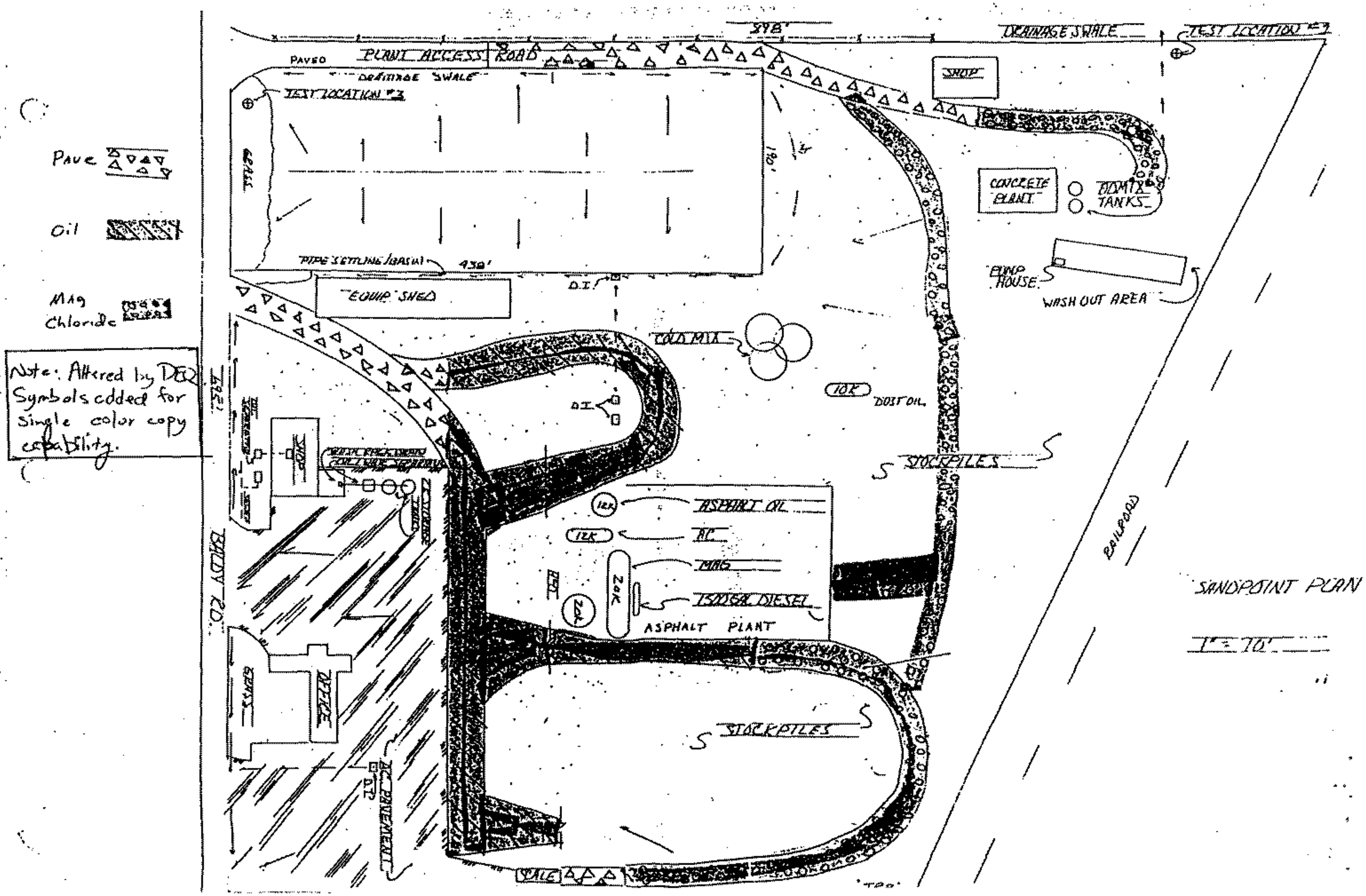
We anticipate that this plan will have to be amended from time to time do to changing dust control products, changes in product demand, and additional areas being paved. Significant changes, not anticipated with this plan, will require a plan change or update. All such updates should be sent to: Division of Environmental Quality, Operating Permits, 1410 North Hilton, Boise, ID 83706.

DOCUMENTATION

An up-to-date copy of this plan will be maintained at the Sandpoint office of Interstate. One copy of the required log will also be maintained at the Sandpoint office. At a minimum the log will include: application dates and quantities of chemical dust suppressants; application times, dates, and quantities of water; areas treated by the various methods; signatures of operators making applications of dust suppressant or water; the days weather.

DUST CONTROL STRATEGIES

Since no single control method works best in all cases, we have chosen a combined strategy using three different types of dust control measures depending on location, traffic volume, and type of activity occurring in the immediate area. High traffic areas without any loading of unloading or gravel will be paved. Low traffic areas and parking areas without any loading or unloading of gravel will be dust oiled with a commercially available and environmentally safe dust suppressant. Areas in which aggregate materials are handled, loaded, or unloaded will be treated with magnesium chloride supplemented with water. Each control strategy is detailed below. The attached map defines the areas to be treated by each method.


SANDPOINT PLAN
1" = 70'
PLANT ACCESS ROAD
PAVED
DRAINAGE SWALE
598'
TEST LOCATION #3
TEST LOCATION #3
SHOP
CONCRETE PLANT
ADMIX TANKS
PUMP HOUSE
WASH OUT AREA
190'
GRASS
PIPE SETTLING (BASIN)
430'
EQUIP. SHED
D.I.
COLD MIX
10K
DUST OIL
STOCKPILES
12K
ASPHALT OIL
12K
AC
20K
MAG
20K
1500 GAL DIESEL
ASPHALT PLANT
BALDY RD.
SHOP
OFFICE
GRASS
AC PAVEMENT
D.I.
SWALE
RAILROAD
Pave
Oil
Mag Chloride
Note: Altered by DEQ
Symbols added for
single color copy
capability.

1.) Pavement: Areas that have a high traffic count traveling in a defined roadway which does not experience aggregate spillage will be paved. These areas are primarily entrances and exits or located adjacent to existing paved areas. Paved areas will be broomed and flushed as necessary to maintain a clean surface. The asphalt pavement will be a minimum of 2" thick and shall be maintained in good condition.

2.) Dust Oil: Areas that have a lower traffic count or areas in which roadways cannot be well defined and do not have gravel handling activities will be dust oiled. These areas are generally adjacent to paved areas. The first application will be 0.25 gallons/sy and will occur as early in the year as precipitation and ground moisture will allow. This is usually between late April and the end of May. Areas will be retreated with a minimum application of .05 gallons/sy each month. Reapplication areas and amounts may be adjusted to account for weather, surface condition, and the ability of the surface to accept the application. Such adjustments to the reapplication schedule or areas treated will be documented in the log. 1000 gallons of dust suppressant is needed to treat an average area of 4000 sy at 0.25 gallons/sy.

3.) Magnesium Chloride: Areas that experience significant spillage of aggregates in the material handling process will be controlled with a combination of magnesium chloride supplemented with water application. These areas are generally around the aggregate stockpiles. The first application of magnesium chloride will be 0.25 gallons/sy and will occur as early in the year as precipitation and ground moisture will allow. This is usually between late April and the end of May. Areas will be retreated with 0.10 gallons/sy magnesium chloride every two months as weather demands. Treated areas will be watered daily or as necessary to maintain the moisture content of the surface. A water truck will be readily available for this purpose. 8.25 tons of magnesium chloride is needed to treat an average area of 6000 sy at 0.25 gallons/sy. 3600 gallons/day of water is needed to treat an average area of 6000 sy during a typical dry summer day. Cool weather, precipitation, and cloud cover will reduce the amount of water that needs to be applied.

HOUSEKEEPING

Good housekeeping is an important part of controlling fugitive dust emissions. The following practices will be used:

1.) Clean up gravel spills in a timely manner.
2.) Maintain the gravel areas to minimize potholes and poor drainage.
3.) Use barricades or other devices to keep traffic out of untreated areas.
4.) Use barricades or other devices to limit the locations where traffic can pass from gravel to paved areas.
5.) Broom and flush pavements that experience tracking from unpaved areas.
6.) Avoid over-watering to prevent mud and tracking problems.

FUGITIVE DUST CONTROL LOG

DUST OIL AND MAGNESIUM CHLORIDE APPLICATIONS

DATE	QUANTITY	AREAS TREATED	OPERATOR INITIALS	COMMENTS

		FUGITIVE DUST CONTROL LOG			
WATER APPLICATIONS					
	NUMBER OF	QUANTITY		OPERATOR	
DATE	APPLICATIONS	IN GALLONS	AREAS TREATED	INITIALS	WEATHER

Appendix B

Emission Estimates

INTERSTATE CONCRETE AND ASPHALT. INVENTORY REVIEW.

From: 1995 SIP REVISION. May 95 (PM10 AIR QUALITY IMPROVEMENT PLAN FOR SANDPOINT, IDAHO).

PRE 1996 Controls:	Fugitive PM_{10}	Fugitive PM_{10}	Overall Control
Asphaltic Concrete Plant	0.83 lb/hr	0.33 T/yr.	75%
Concrete Batch Plant	3.04 lb/hr	1.37 T/yr.	50%
	3.92 lb/hr	1.70 T/yr	

BACT 1996 Control	Fugitive PM_{10}	Fugitive PM_{10}	Overall Control.
Asphalt Plant	0.33 lb/hr	0.13 T/yr.	90%
Concrete Batch Plant.	0.61 lb/hr	0.27 T/yr	90%
	0.94 lb/hr	0.40 T/yr	

"BEST CASE" PM_{10} EMISSIONS REDUCTION DUE TO INCREASED FUGITIVE DUST CONTROL MEASURES: 2.98 lb/hr — 1.30 T/yr.

EXISTING 1995 Requirement & Control Methods.

Asphalt Plant was covered by a Permit to Construct #0240-0035.

Dust Oil (DO-1207 by Idaho Asphalt) 0.25 gallons/yd^2 undiluted. Additional Applications occur once every 2 months, until fall shutdown.

PTC #0240-0035 Did NOT affect the concrete batch plant in any way. Water application is the only level required.